

Remarks

This application was filed on 07 May 1998 with a preliminary amendment claiming the priority date of U.S. Patent No. 5,841,074 filed on 12 March 12 1996. The Examiner did not enter the amendment stating that the text of the amendment did not correspond to the text of the parent application. The preliminary amendment did, in fact, amend the originally filed specification of the parent application, U.S. serial number 08/615,154 now issued as U.S. Patent No. 5,841,074 and those amendments were incorporated into the specification filed in this application.

In the first Examiner's Action of the application herein, the Examiner rejected claims 1-13 under 35 U.S.C. §112, second paragraph; and under 35 U.S.C. §112, first paragraph. The Examiner further separately rejected claims 9-13, 5, and 7-8 under 35 U.S.C. §112, first paragraph. Art was nevertheless applied and claims 1-2 and 4 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 5,523,921 to Van Lydegraf; and claim 3 was also rejected separately under 35 U.S.C. §103(a) as being unpatentable over Van Lydegraf '921. The Examiner further indicated that the subject matter of claims 9, 10-13, and 5, 7, and 8 was allowable, subject to the rejections under 35 U.S.C. §112, first and second paragraphs.

In a response mailed 10 February 2000, Applicants amended the specification and claims 2, 4-8, 11, and 13. The Examiner responded with a Notice to Applicants mailed 09 May 2000, stating that the amendment was not entered because allegedly "the amendments to the disclosure are not consistent with the disclosure on file"

In another response mailed 08 June 2000, Applicants submitted another amendment to the specification and claims of the application filed on 07 May 1998 which incorporated the preliminary amendment. By way of the Examiner's suggestion, Applicants amended the application to be a continuation-in-part application of the U.S. Patent No. 5,841,074. A new declaration and assignment were submitted, one independent claim was added.

The Examiner responded on 28 June 2001 objecting to the drawings. The drawings, amended on 28 August 2001, were approved.

The Examiner responded with an Examiner's Action mailed 03 January 2003 rejecting claims 1-13 under 35 U.S.C. §112, second paragraph. The Examiner also rejects claims 1-2, 4-6, 8, 11-12 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,328,530 entitled MULTIPLE LAYER, CERAMIC CARRIER FOR HIGH SWITCHING SPEED VLSI CHIPS to Bajorek et al. (Bajorek '530); and claims 3, 7, and 10 under 35 U.S.C. §103(a) as obvious in view of Bajorek '530.

In response, Applicants have amended claims 1, 4, 9, 12-14 and have added new claims 15-17. Claims 1-17 are pending in the application.

The Rejection of Claims 1-13 under 35 U.S.C. §112, first paragraph

In paragraph 3 of the Examiner's Action, the Examiner rejected claim 1, stating that it is not clear regarding what is meant by "a plurality of variable resistances between" The Examiner further said it was unclear how can the "at least one source location" distribute current? In response, Applicants have amended claim 1 and in doing so, have changed "variable resistances" to "resistance variations." In doing so, Applicants have not added new matter. With reference to the originally filed specification at page 6, lines 5-8, Applicants state that the terms resistance and impedance will be used interchangeably in the application but that balancing the resistance is the main objective. In the specification at page 7, lines 8 through 24, a lengthy description of the characteristics and/or location of impedance variations is set forth. Applicants respectfully refer the Examiner to page 7, lines 13-17 which states, "Moreover, rather than being voids in powerplane 40, impedance variations 42 may be comprised of nonconductive material, or even conductive material having a resistivity greater than the resistance of the surrounding sheet" Thus, Applicants believe that the characteristics of the claimed resistance variations are clear.

Applicants further amended the claim to state that a power source is coupled to the source location, and that the resistance variations cause a current distribution so that the current to the loads is substantially the same. Thus, Applicants believe that the amended claim 1 now overcomes the rejections under 35 U.S.C. §112, second paragraph.

The Examiner rejected claim 4 under 35 U.S.C. §112, second paragraph stating it is not clear if the “plurality of variable resistances” is just a label for the space between the location of the loads or if there is an actual variable resistor connected the two loads? In response, Applicants amended claim 4 to state that the resistance variations are arranged on and within the thickness of the powerplane, and respectfully refer the Examiner to the specification on pages 6 and 7.

The Examiner further rejected claim 9 alleging that essential structural cooperation relations of elements were omitted. In response, Applicants have amended the claim to state the power source and loads are electrically coupled to the conductive sheet. Applicants have further amended claim 9 to claim a distribution means within the thickness of the conductive sheet. Applicants gently remind the Examiner that with a mean-plus-function claim, recital of structure, material, or acts in support thereof is not required, 35 U.S.C. §112, sixth paragraph, and respectfully refer the Examiner to the specification on pages 6 and 7 and to the figures.

Claim 12 has been amended to further clarify the nature of the resistance variations within the thickness of the powerplane. Thus Applicants refer the Examiner to the specification and request him to withdraw the rejection of claim 12 under 35 U.S.C. §112, second paragraph.

Claim 13 uses the words “near” and “distant”; the Examiner is wondering what elements are being compared. Applicants respectfully refer the Examiner to lines 3-4 of the claim itself which states “with said near load pins being nearer to said plurality of source pins than said distant load pins”. Thus, the comparison is between which load pins are near to and which load pins are distant from the source pins. Applicants respectfully request the Examiner to withdraw the rejection of claim 13 under 35 U.S.C. §112, second paragraph.

With respect to claim 14, Applicants have removed the offending language not understood and rejected by the Examiner. Thus Applicants respectfully request the Examiner to withdraw the rejection of claim 14 under 35 U.S.C. §112, second paragraph.

Applicants have added new claims 15-17. In doing so, Applicants have not added new matter. Support for claims 15-17 is in the specification at page 7, lines 15, and lines 21-24.

Rejection of Claims 1-14 under 35 U.S.C. §§ 102(e) and 103(a)

The Examiner further rejected all the claims under 35 U.S.C. §§ 102(e) or 103(a) using Bajorek '530 as a reference. Respectfully, Applicants traverse the rejections. Bajorek '530 discloses a chip packaging scheme having capacitive stacks comprising ceramic substrates carrying alternating laminated layers of metallic, power plane conductors and ceramic or dielectric sheets. (see Bajorek '530 at column 5, lines 22-26 and figures 2, 11, and 15) Bajorek '530 discloses the metallization of power planes to provide capacitance and supply power to chips (column 6, lines 59-60, and throughout column 7) situated between dielectric green sheets in order to form capacitive elements. Bajorek '530 does not disclose the claimed elements of a conductive sheet or a powerplane having areas comprising resistance variations within the thickness of the conductive sheet or powerplane. Indeed, Bajorek '530 is silent on the subject of resistive variations in the thickness of the conductive sheet to balance the current across the power plane so that any loads connected to the power plane would receive the same amount of current. The intent and purpose of Bajorek '530 is achieve capacitive and inductive decoupling between powerplanes, not to achieve load balancing. Respectfully, Applicants request the Examiner to specifically point out where Bajorek '530 discloses, teaches, suggests, or even hints at Applicants' claimed element of "resistance variations within the thickness of the powerplane/conductive sheet." Applicants request the Examiner reconsider and remove the rejection of claims 1-14 under 35 U.S.C. §§ 102(e) or 103(a) using Bajorek '530 as a reference.

Conclusion

Applicants submit that the amendments to the claims overcome the rejection of the claims under 35 U.S.C. §112. With respect to the rejection of claims 1-14 under 35 U.S.C. §§ 102(e) or 103(a) based on Bajorek '530, Applicants traverse the rejection because Bajorek '530 does not disclose or suggest resistance variations in the thickness of a powerplane in order to achieve load balancing.

Upon considering this amendment, the Examiner is respectfully urged to call the Applicants' attorney at the number below if any changes or corrections are deemed necessary for allowance of the present application. Applicants respectfully request reconsideration and an early allowance of the application by the Examiner.

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Respectfully submitted,

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